INDEX

Page numbers of symposium and clinic titles are given in **boldface** type.

ACETONE, blood, bedside test for, 319
Acid, organic, concentration of, in fasting infant, 54
Acid-base, disturbances, in salicylate intoxication, treatment, 295–6
  urine and body fluids in, 73
  equilibrium, disturbance of, in salicylism, 285–7
Acidification of urine, 69–73
Acidosis. See also *Alkalosis.*
  and alkalosis, **19–27**
  compensated, 26
  diabetic. See under *Diabetes mellitus.*
  dilutional, 296
  etiology, 24–5
  metabolic, in newborn, 182*ff.*
    potassium losses with, 94
    symptoms and signs, 26
    urine and body fluids in, 73
  pathologic changes in, 25
  physical signs, 103
  respiratory, in cystic fibrosis of pancreas, 236–7
    symptoms and signs, 26
    urine and body fluids in, 73
  symptoms and signs, 26
  treatment, 27
Aciduria, paradoxical, 282, 293
Addison's disease, adrenocortical failure due to, 212–13
Adrenals, aplasia, primary, adrenocortical failure due to, 210
  cortex, failure. See *Adrenals, cortex, insufficiency.*
    hyperplasia, congenital virilizing, adrenocortical failure due to, 212
    insufficiency, 209–19
      causes, 210
      evidence of, 210
Adrenals, cortex, insufficiency, fluid therapy in, **209–219**
      treatment, complications, 217
        fluid therapy, 213–18
    steroids of, in renal regulation of body fluids, 74, 75
  crisis, acute, adrenocortical failure due to, 212
    treatment, 215
  hemorrhage, adrenocortical failure due to, 211
  hormones, in adrenocortical failure, 215–16
  hypofunction, adrenocortical failure due to, 211
Albumin, serum, in nephrotic syndrome, 130
Alimentary tract. See *Gastrointestinal tract.*
Alkalosis. See also *Acidosis.*
  acidosis and, **19–27**
  compensated, 26
  etiology, 24–5
  metabolic, acidification of urine in, 72, 73
    in potassium deficiency, 93
    symptoms and signs, 26
    with potassium depletion, urine and body fluids in, 73
  pathologic changes in, 25
  respiratory, in salicylism, 287
    symptoms and signs, 26
    urine and body fluids in, 73
  symptoms and signs, 26, 103
  treatment, 27
Ammonia formation in conservation of base, 22–3
Ammonium production, acidification of urine due to, 71, 72

Antidiuretic hormone, in renal regulation of body fluids, 74
in water conservation, 60, 61, 62
Appendectomy, electrolyte solutions after, 161
Aramine Bitartrate. See *Metaraminol bitartrate*.
Azotemia in acute renal failure, 135

Base, conservation of, 23–4
by ammonia formation, 22–3
Bed rest in cardiac failure, 253
Bedside laboratory techniques, **317–20**
Bicarbonate. See *Sodium bicarbonate*.
Bicarbonate-carbonic acid system in maintenance of pH, 21–2
Blood, acetone level, bedside test for, 319
capillary, blood-drawing technique, 325–7
chemical determinations in newborn, limitations, 183–4
chemical patterns in newborn, 182–3
plasma, chemical studies in newborn, 182
in adrenocortical failure, 214
protein, increase in, solutions for, 309–10
substitutes, 310
pressure, in congestive cardiac failure, 243
transfusion, in chronic renal failure, 133
in diarrhea in newborn, 190
venous, blood-drawing technique, 322–5
volume, increase in, solutions for, 309–10
Blood-drawing techniques, **321–8**
Body, chemical constituents, 9
content, dietary intake and growth requirements correlated with, 9
fluids. See under *Fluids*.
mechanisms for maintenance of pH, 20–24
water, total, and normal electrolyte composition, **5–18**
Buffers in maintenance of pH, 20–22
Burns, 169–77
evaluation of seriousness, 170–72
first aid, 170
fluid replacement, rationale of, 173–5
fluid therapy in, 175–7
trauma and shock, fluid therapy in, **169–79**
treatment, initial, 172–3

Calcium, content, of body, 9, 14–15
intake, correlated with body content and growth requirements, 9
Calcium, requirements, 38
therapy, in infant diarrhea, 204
Calcium chloride in hypertonic dehydration, 207
Calcium gluconate, in acute renal failure, 135, 136
in chronic renal failure, 133
in hypernatremic dehydration, 199
in hypertonic dehydration, 206, 207
Calcium lactate in hypertonic dehydration, 207
Calories, daily requirements in newborn, 185
expenditure, 33
solutions for provision of, 307–8
Cannulation, venous, 313–14
Capillary blood-drawing technique, 325–7
Carbohydrate. See also *Glucose*.
in acute renal failure, 135
metabolism, disturbance in, in salicylate intoxication, 284–5
Carbonate content of body, 9, 16
Carbon dioxide, content, 19
partial pressure, 19
alveolar, 282
arterial, 282
tension, 19
total, 19
Carbon dioxide-combining power, 19
Carbonic acid in maintenance of pH, 22
Cardiovascular collapse in infections, 152
Catabolism, tissue, in potassium deficits, 92
Cells, extracellular changes, in acidosis and alkalosis, 25
integrity of, change in, in acidosis and alkalosis, 25
membranes, metabolic transfer across, 150–51
Chemical constituents of body, 9
Chloride, content, of body, 9, 12–13
of gastric juice in ileostomy patients, 162
in fluid therapy, after appendectomy, 161
after herniorrhaphy, 161
in preoperative fluid therapy, 158
in newborn, 159
in salicylate poisoning, 293
in sweat in cystic fibrosis of pancreas, 222
requirements, in diarrhea with dehydration, 39
in parenteral fluids, 32, 33
sweat, screening tests, 230–31
tubular transport, 50, 51
Chlorothiazide in congestive cardiac failure, 251, 252
Collapse, cardiovascular, in infections, 152

Coma in diabetic acidosis, 117
Convulsions, in hypernatremic dehydration, 198
in infections, 150
Cortisone acetate in prevention of adrenal crisis, 217
Cyanosis in congestive cardiac failure, 243, 244

DARROW'S K lactate solution, in diarrhea, 110
in hypotonic dehydration, 110
due to diarrhea, 107
in isotonic dehydration, 109
due to diarrhea, 105
Dehydration, 82–7
clinical considerations, 87–96
due to diarrhea, 38–40
due to hypertrophic pyloric stenosis, deficit therapy, 113
hypernatremic, **193–9**. See also *Dehydration, hypertonic.*
clinical manifestations, 196–7
pathology, 195–6
physiology, 195–6
predisposing factors, 193–5
treatment, 197–9
hypertonic, 83, 85–6
clinical considerations, 91–2
due to diarrhea, deficit therapy, 108, 109
in diarrhea, 206, 207
in neurologic disease, **257–79**
osmotic diuresis in, 69
hyponatremic. See *Dehydration, hypotonic.*
hypotonic, 83, 85
clinical considerations, 90–91
due to diarrhea, deficit therapy, 107, 109
due to low sodium glucose, 91
urine concentration in, 65, 66
intracellular, 94
potassium deficits and, 92–6
treatment, 95, 96
isotonic, 83, 84–5
clinical considerations, 88–90
diagnosis, 89
due to diarrhea, deficit therapy, 105, 109
treatment, 89
physical signs, 101, 102
salt depletion and potassium loss, theoretical considerations, **81–98**
therapy, deficit, historical data in, 101
water and electrolyte deficits, 100
Desoxycorticosterone acetate, in adrenal crisis, 215
in prevention of adrenal crisis, 217
Desoxycorticosterone trimethylacetate in adrenal crisis, 215, 216
Diabetes mellitus, acidosis, 115–22
fluid therapy, **115–22**
laboratory tests, 118
metabolic derangements, 115–18
osmotic diuresis in, 68, 69
prevention, 116
treatment, 118–22
Diarrhea, acidosis due to, 24
and vomiting, fluid therapy, **99–114**
calcium therapy, 204
complications, postacidotic, **201–8**
clinical manifestations, 201–2
incidence, 202–3
pathologic physiology, 203–5
predisposing factors, 201
signs and symptoms, 202
treatment, 205–7
dehydration due to, 38–40
fluid therapy, 104–11
laboratory data in, 103
in newborn, fluid therapy, 189, 190
laboratory data, 103
water and electrolyte deficits in, 100
Diet, intake, correlation with body content and growth requirements, 9
Digitalis, in congestive cardiac failure, 246–51
preparations, 250
Digitoxin, digitalizing doses, 249
in congestive cardiac failure, 249
Digoxin in congestive cardiac failure, 249
Diuresis, osmotic, 67–9
Diuretics in cardiac failure, 251–3
Diuril. See *Chlorothiazide.*
DOCA. See *Desoxycorticosterone acetate.*

EDEMA, in congestive cardiac failure, 244
pulmonary, acute, in salicylate poisoning, 297
Electrolyte, abnormality, in cystic fibrosis of pancreas, **221–40**
composition, balance technique, 6, 7
dilution technique, 7, 8
gravimetric macromethods, 6
normal, and total body water, **5–18**
concentration, of sweat, 228
content, of gastrointestinal fluids in newborn, 188
of sweat, 146
deficits, in dehydration, 100
lacrimal, in cystic fibrosis of pancreas, 224
needs, in newborn, 181–4
requirements, in newborn, 186
salivary, in cystic fibrosis of pancreas, 223

Electrolyte, solutions, excessive administration, in hypernatremic dehydration, 194–5
for fluid therapy, composition of, 302
in burns, 176–7
solutions for provision of, 304–7
sweat, in cystic fibrosis of pancreas, 221–4
tracheobronchial, in cystic fibrosis of pancreas, 224
Enzymes, changes in, in acidosis and alkalosis, 25
Epinephrine in adrenal crisis, 215, 216
Exhaustion, adrenocortical failure due to, 212
Extracellular fluids. See under *Fluids, body.*

Feces, water losses in, in hypernatremic dehydration, 194
Fever in infections, 143–9
cause, 147–9
First aid in burns, 170
Fluids. See also *Water.*
and electrolyte problems, clinical applications, 99–299
physiologic considerations, 5–98
symposium on, **1–328**
technical procedures, 301–28
body, extracellular, expansion of volume of, in salicylate poisoning, 294
volume, reduction in, 87, 88
in acid-base disturbances, 73
intracellular, volume of, contraction, 88
expanded, 88
regulation of, renal structure and function related to, **43–80**
volume regulation, 75–6
gastrointestinal, electrolyte content in newborn, 188
in acute renal failure, 134, 135
intake, in burns, 175
intravenous, in adrenal crisis, 215
parenteral, in diabetic acidosis, 119–22
requirements, physiologic basis, **29–41**
principles of, 31–4
replacement, in burns, rationale of, 173–5
requirements, in diarrhea with dehydration, 39
restriction, in cardiac failure, 253
therapy, concomitant replacement of abnormal losses, 99
deficit, 99
during operative period, 160
in adrenocortical failure, **209–19**
Fluids, therapy, in burns, 175–7
in congestive circulatory failure, **241–55**
in diabetic acidosis, **115–22**
in neurologic disease, complications of, **257–78**
in newborn infants, **181–92**
in renal disease, **123–37**
principles of, 127–8
in shock, 177–9
in surgical conditions, **155–67**
in trauma, 177–9
maintenance, 99
in salicylate poisoning, 295
of diarrhea and vomiting, **99–114**
postoperative, 160–65
preoperative, 157–9
solutions, 301–10
and techniques, **301–15**
classification, 309
techniques, 310–15
intravenous, 311–12
parenteral, 311–15
subcutaneous, 314–15
Fluorohydrocortisone in adrenal crisis, 216
Fructose in acute renal failure, 134

Gastric juice. See *Stomach, secretion.*
Gastrointestinal fluids in newborn, electrolyte content, 188
Gastrointestinal tract, fluid therapy, 310–11
Gavage, fluid therapy by, 310–11
Glomeruli. See under *Kidneys.*
Glomerulonephritis. See *Nephritis, glomerular.*
Glucose, in acute renal failure, 134, 135
in chronic renal failure, 132
in dehydration due to hypertrophic pyloric stenosis, 113
in diabetic acidosis, 119, 120, 121
in diarrhea, 110
in newborn, 190
in fluid therapy of burns, 175
in hypernatremic dehydration, 198
in hypertonic dehydration due to diarrhea, 108
in hypotonic dehydration, 110
due to diarrhea, 107
in isotonic dehydration, 109
due to diarrhea, 105
in operative period fluid therapy, 160
in potassium deficiency, 37
in salicylate poisoning, 295
Glycogenesis in potassium deficits, 92–3
Growth, requirements, and body content, dietary intake correlated with, 9

HARTMANN'S solution, in isotonic dehydration, 36
in potassium deficiency, 37
Heart, failure. See *Heart, insufficiency.*
insufficiency, congestive, 241–55
clinical manifestations, 242–5
etiology, 245–6
fluid therapy in, **241–55**
mechanisms of, 241–2
treatment, 246–55
murmurs, in congestive failure, 243
sounds, in congestive failure, 243
Heat. See also *Burns.*
effects, 234
elimination, in infections, 144–7
production, in infections, 143–4
Heat prostration, treatment, 235–6
Hemoglobin, in maintenance of pH, 22
increase in, solutions for, 309–10
Hemorrhage, adrenal, adrenocortical failure due to, 211
Herniorrhaphy, electrolyte solution after, 161
History in diarrhea and vomiting, 101
Hormones in renal regulation of body fluids, 74–5
Hydrocortisone in adrenal crisis, 215
Hyperkalemia in acute renal failure, 135
Hypernatremia. See *Dehydration, hypernatremic.*
Hyperosmolarity, signs and symptoms, 202
Hyperventilation. See under *Respiration.*
Hypocalcemia in acute renal failure, 136
Hypohydration. See *Dehydration.*
Hyponatremia, asymptomatic, clinical considerations, 91
in acute renal failure, 135
water intoxication with, 85
Hypopotassemia, physical signs, 103

ILEOSTOMY patient, sodium, chloride and potassium content of gastric juice in, 162
Infections, clinical features, general, 149–50
factors in, common, 140–50
specific, 150–52
fulminating, adrenocortical failure due to, 211–12
metabolic reaction to, **139–54**
relation of nutrition to, 151
Insulin in diabetic acidosis, 118–19
Intake, aberrations of, in infections, 150
Intoxication, salicylate, **281–99**
water. See under *Water.*
Intracellular fluid. See under *Fluids, body.*
Ions, concentration, physical signs of, 103
Isosthenuria, 125

KETO-ACIDOSIS. See *Diabetes mellitus, acidosis.*
Kidneys, compensatory mechanisms, 127
disease, fluid therapy, **123–37**
principles of, 127–8
failure, acute, fluid therapy, 133–6
chronic, fluid therapy, 132–3
filtration rate, general considerations, 48–50
function of, current concepts, 48–51
maturation of, 51–6
glomeruli. See also *Nephritis, glomerular.*
filtration rate in first month, 52
structure of, 44–8
imbalance between glomerular filtration and tubular reabsorption, 124
in maintenance of pH, 22–4
pathology, types of, 124–7
structure, and function, relation to regulation of body fluids, **43–80**
new concepts, 44–8
tubules, defects of, 125, 127
functions of, general considerations, 50–51
structure of, 48
water loss, in hypernatremic dehydration, 195

LABORATORY techniques, bedside, **317–20**
Lanatoside C in congestive cardiac failure, 249, 250
Levarterenol in adrenal crisis, 215, 216
Levophed. See *Levarterenol.*
Lipid metabolism, disturbance in, in salicylate intoxication, 284–5
Liver, engorgement, in congestive cardiac failure, 244
Lungs, alveolar ventilation, increase in, due to salicylate intoxication, 282–3

MAGNESIUM, content, of body, 9, 13–14
requirements, 38
Membranes, cell, metabolic transfer across, 150–51
Meralluride in congestive cardiac failure, 251
Mercuhydrin. See *Meralluride.*
Metabolic reaction to infectious disease, **139–54**
Metabolism, basal, correlation with surface area, 33, 34
rate of, increase in, in salicylate intoxication, 284
total, 33
Metaraminol bitartrate in adrenal crisis, 216
Microhematocrit test in diabetic acidosis, 118

Morphine, in burns, 172, 173
in cardiac failure, 254
Murmurs. See under *Heart*.

Nephritis, glomerular, acute, fluid therapy in, 128–9
Nephron-destroying disease, progressive, 124, 125
Nephrosis, lower nephron, urine concentration in, 64, 65
Nephrotic syndrome, fluid therapy, 129–32
Neurologic disease, fluid therapy in, complications of, **257–79**
clinical considerations, 260–77
physiologic considerations, 258–60
Neurosurgery, fluid therapy in, 165
Newborn, adrenal hemorrhage in, 211
caloric requirements, daily, 185
clinical appraisal, 181–2
electrolyte content of gastrointestinal fluids in, 188
electrolyte needs, 181–4
electrolyte requirements, 186
fluid therapy in, **181–92**
for daily expenditure, 187–9
for obligatory expenditure, 184–7
for previous deficits, 189–90
indications for, 184–90
laboratory data, 182–4
water requirements, 186
Nitrogen, excretion, 53
solutions for provision of, 308
Norepinephrine. See *Levarterenol*.
Nutrition, relation to infection, 151

Oliguria. See *Urine, suppression*.
Orthopnea in congestive cardiac failure, 243
Oxygen therapy in cardiac failure, 254

Pancreas, fibrosis, cystic, diagnosis, 225–7
electrolyte abnormality in, **221–40**
Paraldehyde in convulsions due to hypernatremic dehydration, 198
Parenteral fluids, in diabetic acidosis, 119–22
requirements, physiologic basis, **29–41**
principles of, 31–4
therapy, techniques, 311–15
Pathology, renal, types of, 124–7
Percorten. See *Desoxycorticosterone trimethylacetate*.
pH, body mechanisms for maintenance of, 20–24
Phenobarbital sodium in convulsions due to hypernatremic dehydration, 198
Phosphate, excretion, in maintenance of pH, 23–4
requirements, 38
Phosphoric acid in maintenance of pH, 22
Phosphorus, content, of body, 9, 15–16
kidney filtration rate, 126
Plasma. See under *Blood*.
Poisoning, salt, in hypernatremic dehydration, 195
Position in cardiac failure, 254
Potassium, administration of, contraindications, 95
content, of body, 9, 13
of gastric juice in ileostomy patients, 162
deficits, and intracellular dehydration, 92–6
in salicylate poisoning, repair of, 294, 295
urine concentration in, 66, 67
with metabolic alkalosis, urine and body fluids in, 73
excretion, 53
in chronic renal failure, 133
in diabetic acidosis, 119, 120, 121
in fluid therapy, after appendectomy, 161
after herniorrhaphy, 161
of diarrhea in newborn, 190
in isotonic dehydration, 109
in preoperative fluid therapy, 158
in newborn, 159
in salicylate poisoning, 294, 295
infusion, urine and body fluids in, 73
intake, correlated with body content and growth requirements, 9
level, serum, bedside test for, 317, 318
loss, salt depletion and dehydration, theoretical considerations, **81–98**
replacement by other cations, 93–6
requirements, 37–8
in diarrhea with dehydration, 39
in parenteral fluids, 32, 33
solution, in dehydration, 95
in potassium deficiency, 37, 38
Potassium acetate in hypertonic dehydration due to diarrhea, 108
Potassium bicarbonate in diarrhea, 111
Potassium chloride, in fluid therapy in newborn, 187
in hypernatremic dehydration, 198
solution, in dehydration due to hypertrophic pyloric stenosis, 113
Protein, plasma, increase in, solutions for, 309–10
serum, in maintenance of pH, 22

Protein, solutions, excessive administration, in hypernatremic dehydration, 194–5
Pulmonary. See *Lungs.*
Pyloric stenosis. See *Pylorus, stenosis of.*
Pylorus, stenosis of, acidosis due to, 24
hypertrophic, deficit therapy in dehydration due to, 113
fluid therapy, 112
water and electrolyte deficits in, 100

REACTION, metabolic, to infectious disease, **139–54**
stress, in infections, 140–43
Rectum, fluid therapy infusion, 311
Renal. See *Kidneys.*
Respiration, depression of, in salicylate poisoning, 298
hyperventilation, acidosis due to, 24, 25
in congestive cardiac failure, 243
Respiratory tract, infections, treatment, in cardiac failure, 254
obstruction, acidosis due to, 24
Rest, bed, in cardiac failure, 253
Ringer's lactate solution, in acute renal failure, 134
in diarrhea in newborn, 190
in hypertonic dehydration, 110
due to diarrhea, 108
in hypotonic dehydration due to diarrhea, 107
in isotonic dehydration, 89
due to diarrhea, 105
in nephrotic syndrome, 130

SALICYLATE, determination, bedside test for, 319, 320
eradication of, 296–7
intoxication, **281–99**
complications, treatment, 297–8
laboratory findings, 291–3
recovery pathways, 287–90
signs and symptoms, 290–91
treatment, 293–8
toxic amounts, basic effects, 281–5
Saline, in fluid therapy, in newborn, 187
of burns, 176
in operative period fluid therapy, 160
solution. See also *Sodium chloride.*
in acute renal failure, 134, 135
in adrenocortical failure, 214
in diabetic acidosis, 120
in heat prostration, 236
in hypernatremic dehydration, 197
in isotonic dehydration, 36, 89
in nephrotic syndrome, 130
in preoperative fluid therapy, 158
Saliva, electrolytes, in cystic fibrosis of pancreas, 223
Salt. See also *Sodium chloride.*
and water loss, proportional. See *Dehydration, isotonic.*
depletion, in cystic fibrosis of pancreas, 232–5
potassium loss and dehydration, theoretical considerations, **81–98**
in prevention of heat prostration in cystic fibrosis of pancreas, 235
poisoning, in hypernatremic dehydration, 195
restriction, in cardiac failure, 253
in glomerulonephritis, 128, 129
retention, without water, 87
Serum, albumin, in nephrotic syndrome, 130
bicarbonate, measurement, 19
potassium level, bedside test for, 317, 318
proteins, in maintenance of pH, 22
Shock, 177–9
fluid therapy, 177–9
Shwachman plate test, correlation with sweat chloride, 231
Sodium, content, of body, 9, 10–12
of gastric juice in ileostomy patients, 162
excretion, 53
in fluid therapy, after appendectomy, 161
after herniorrhaphy, 161
of diarrhea in newborn, 190
in preoperative fluid therapy, 158
in newborn, 159
in salicylate poisoning, 293
in sweat in cystic fibrosis of pancreas, 222
intake, correlated with body content and growth requirements, 9
kidney filtration rate, 126
requirements, 34–7
in diarrhea with dehydration, 39
in parenteral fluids, 32, 33
tubular transport, 50, 51
Sodium bicarbonate, in diabetic acidosis, 120, 121
in fluid therapy of diarrhea in newborn, 190
in salicylate poisoning, 293, 295
reabsorption, acidification of urine due to, 71
serum, measurement of, 19
Sodium chloride. See also *Saline solution; Salt.*
in adrenocortical failure, 214
in diabetic acidosis, 119
in diarrhea, 11

Sodium chloride, in fluid therapy in newborn, 187
in hypernatremic dehydration, 198
solution, in acute renal failure, 136
in chronic renal failure, 132
in dehydration due to hypertrophic pyloric stenosis, 113
in diabetic acidosis, 121
Sodium lactate, in fluid therapy, of diarrhea in newborn, 190
of burns, 176
in hypernatremic dehydration, 197, 198
solution, in chronic renal failure, 132
in diabetic acidosis, 120, 121
in hypertonic dehydration due to diarrhea, 108
Solu-cortef. See *Hydrocortisone*.
Solute concentration, decreased, 88
in fasting infant, 54
increase in, 88
Solutions. See *Fluid* and specific solutions.
Sounds. See under *Heart*.
Steroids, adrenocortical, in renal regulation of body fluids, 74, 75
discontinuance of, adrenocortical failure due to, 212
Stomach, secretion, sodium, chloride and potassium content of, 162
Stools. See *Feces*.
Stress reaction in infections, 140–43
Sucrose in diarrhea, 111
Surgery, elective, preoperative fluid therapy in, 157–9
Surgical conditions, fluid therapy in, **155–67**
Sweat, chlorides, correlation with Shwachman plate test, 231
screening tests, 230–31
collection, in cystic fibrosis of pancreas, 229–30
electrolytes, concentration of, 228
content, 146
in cystic fibrosis of pancreas, 221–4
secretion, factors controlling, 227–9
test, in diagnosis of cystic fibrosis of pancreas, 225
Syndrome, dilution, 252
low-salt, 252

TEARS, electrolytes, in cystic fibrosis of pancreas, 224
Tissue catabolism in potassium deficits, 92
Tracheobronchi, electrolytes, in cystic fibrosis of pancreas, 224
Transfusion, blood. See under *Blood*.
Trauma, 177–9
fluid therapy, 177–9

UREA, kidney filtration rate, 126
Urine, acidification, 69–73
concentration, 56–67
clinical inferences, 61–7
physiology of, 56–61
excretion, in burns, 175
formation, cessation of, 125
in acid-base disturbances, 73
suppression of, postdialysis, 127

VEINS, cannulation, 313–14
Venesection, 322–5
Venoclysis, 312
Ventilation, alveolar, pulmonary, in salicylate intoxication, 282–3
Vomiting, and diarrhea, fluid therapy, **99–114**
fluid therapy, 112–14
laboratory data in, 103

WATER, administration, in dehydration, 95, 96
and salt loss, proportional. See *Dehydration, isotonic*.
balance, in fasting infant, 54
body, total, and normal electrolyte composition, **5–18**
conservation, antidiuretic hormone in, 60, 61
content, of body, 8, 9, 10
deficits, in dehydration, 100
electrolyte-free, losses of, in hypernatremic dehydration, 194
expenditure, 29, 30, 31
intake, correlated with body content and growth requirements, 9
oral, interference with, in hypernatremic dehydration, 193–4
intoxication, clinical considerations, 91
in neurologic disease, **257–79**
with hyponatremia, 85
losses, in stools, in hypernatremic dehydration, 194
renal, in hypernatremic dehydration, 195
requirements, in diarrhea with dehydration, 39
in newborn, 186
salt retention without, 87
solutions for provision of, 304–7